1L6

1L6
PENTAGRID CONVERTER
MINIATURE TYPE

GENERAL DATA

Electrical:

Filament, Coated:

Voltage	1.4	dc volts
Current	0.050	amp

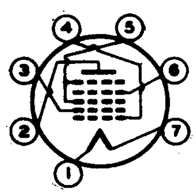
Direct Interelectrode Capacitances:

	With External Shield▲	*Without External Shield*	
Grid No.4 to All Other Electrodes (RF Input)	7.5	7.5	μμf
Plate to All Other Electrodes (Mixer Output)	12	7	μμf
Grid No.1 to All Other Electrodes Except Grid No.2 (Osc. Input)	2.2	2.2	μμf
Grid No.2 to All Other Electrodes Except Grid No.1 (Osc. Output)	2.6	2.6	μμf
Grid No.4 to Plate	0.36 max.	0.46 max.	μμf
Grid No.4 to Grid No.2	0.24	0.24	μμf
Grid No.4 to Grid No.1	0.19	0.19	μμf
Grid No.2 to Grid No.1	0.80	0.80	μμf
Grid No.1 to Plate	0.10 max.	0.15 max.	μμf

Mechanical:

Mounting Position	Any
Maximum Overall Length	2-1/8"
Maximum Seated Length	1-7/8"
Length from Base Seat to Bulb Top (excluding tip)	1-1/2" ± 3/32"
Maximum Diameter	3/4"
Bulb	T-5-1/2
Base	Small-Button Miniature 7-Pin (JETEC No.E7-1)
Basing Designation for BOTTOM VIEW	7DC

Pin 1 - Filament (-)
Pin 2 - Plate
Pin 3 - Grid No.2
Pin 4 - Grid No.1



Pin 5 - Grid No.3, Grid No.5
Pin 6 - Grid No.4
Pin 7 - Filament (+)

CONVERTER

Maximum Ratings, *Design-Center Values:*

PLATE VOLTAGE	110 max.	volts
GRIDS—No.3 & No.5 (SCREEN) VOLTAGE	65 max.	volts

▲ External shield #316 connected to pin 1.

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GRIDS-No.3 & No.5 SUPPLY VOLTAGE	110 max.	volts
GRID-No.2 (OSCILLATOR-PLATE) VOLTAGE . . .	110 max.	volts
TOTAL CATHODE CURRENT	4 max.	ma

Characteristics - *Separate Excitation:*#

Plate Voltage	90	volts
Grids-No.3-and-No.5 Voltage	45	volts
Grid-No.2 (Oscillator-Plate) Voltage . . .	90	volts
Grid-No.4 (Mixer-Grid) Voltage	0	volts
Grid-No.1 (Oscillator-Grid) Resistor . . .	0.2	megohm
Plate Resistance (Approx.)	0.65	megohm
Conversion Transconductance	300	μmhos
Grid-No.4 Voltage for Conversion Transconductance of 10 μmhos . . .	-3.5	volts
Grid-No.4 Voltage for Conversion Transconductance of 100 μmhos . .	-1.3	volts
Plate Current	0.5	ma
Grids-No.3-and-No.5 Current	0.6	ma
Grid-No.2 Current	1.2	ma
Grid-No.1 Current	0.035	ma
Total Cathode Current	2.35	ma

Maximum Circuit Values:

Grid-No.4-Circuit Resistance	1.0 max.	megohm

NOTE: The transconductance between grid No.1 and grid No.2 connected to plate (not oscillating) is approximately 550 μmhos under the following conditions: signal applied to grid No.1 at zero bias; grid No.2 and plate at 90 volts; grids No.3 and No.5 at 45 volts; grid No.4 grounded. Under the same conditions, the total cathode current is 5 milliamperes, and the amplification factor is 40.

The characteristics shown under separate excitation approximate those obtained in a self-excited oscillator operating with zero bias.